

Today's Topics:

NASA Prediction Bulletins

Date: Sat, 23 Dec 89 16:32:15 EST
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Subject: NASA Prediction Bulletins

The most current orbital elements from the NASA Prediction Bulletins are carried on the Celestial RCP/M, (513) 427-0674, and are updated several times weekly. Documentation and tracking software are also available on this system. As a service to the satellite user community, the most current of these elements are uploaded weekly to sci.space. This week's elements are provided below. The Celestial RCP/M may be accessed 24 hours/day at 300, 1200, or 2400 baud using 8 data bits, 1 stop bit, no parity.

- Current NASA Prediction Bulletins #617 -

Alouette 1

1 00424U 62B-A 1 89354.72266571 .000000351 00000-0 41053-3 0 2500
2 00424 80.4649 102.0154 0023651 13.6894 346.4875 13.67267586358301

ATS 1

1 02608U 66110 A 89349.13076144 -.000000035 00000-0 99999-4 0 864
2 02608 13.3761 15.1579 0003303 331.2270 28.7432 1.00392496 701

ATS 3

1 03029U 67111 A 89349.12248212 -.000000074 00000-0 99999-4 0 2764
2 03029 12.9769 22.7095 0016123 204.9242 154.9705 1.00272259 80952

Cosmos 398

1 04966U 71 16 A 89355.21086143 .00076176 16479-4 45948-3 0 3620
2 04966 51.5342 315.1928 2403967 179.6293 180.7064 10.77570439572276

Starlette

1 07646U 75010 A 89351.73319073 .000000014 00000-0 59154-4 0 01
2 07646 49.8261 154.4704 0206184 311.9736 46.3750 13.82129599750681

LAGEOS

1 08820U 76039 A 89353.02861668 .000000005 00000-0 00000 0 0 9587
2 08820 109.8615 293.4026 0045129 277.0676 82.4708 6.38663995 62431

GOES 2

1 10061U 77048 A 89354.25110988 -.000000011 00000-0 00000 0 0 3364
2 10061 7.6218 65.9293 0007440 185.1125 174.7826 1.00280241 7242

GPS-0001

1 10684U 78020 A 89353.93567764 .000000009 00000-0 99999-4 0 2969
2 10684 63.6479 95.0900 0114401 198.3494 161.2380 2.00558486 72253

GPS-0002

1 10893U 78 47 A 89352.40584957 -.000000026 00000-0 00000 0 0 760
2 10893 64.4540 335.9948 0158017 26.0142 334.7966 2.00551159 85047

GOES 3

1 10953U 78062 A 89352.30853737 .000000089 00000-0 99999-4 0 7864

2 10953 6.4805 68.6796 0005391 235.0893 124.6745 1.00261424 2789
 SeaSat 1
 1 10967U 78064 A 89353.88090206 .00001436 00000-0 54443-3 0 2135
 2 10967 108.0147 310.2420 0002876 265.5109 94.5708 14.35237084600724
 GPS-0003
 1 11054U 78093 A 89353.20856316 -.000000026 00000-0 00000 0 0 1324
 2 11054 63.9914 332.3431 0055057 119.3748 241.1779 2.00564997 82079
 GPS-0004
 1 11141U 78112 A 89352.80575787 .000000009 00000-0 00000 0 0 2408
 2 11141 63.6422 95.0233 0056627 318.6760 40.8978 2.00565661 80760
 NOAA 6
 1 11416U 79 57 A 89352.52015782 .00001112 00000-0 47896-3 0 9451
 2 11416 98.5149 344.4042 0010952 292.0316 67.9704 14.26320259544170
 GPS-0005
 1 11690U 80 11 A 89352.44435974 .000000010 00000-0 00000 0 0 8768
 2 11690 64.1023 97.0368 0110593 203.2671 156.2285 2.00558055 86618
 GPS-0006
 1 11783U 80 32 A 89353.75938741 -.000000026 00000-0 00000 0 0 130
 2 11783 63.7982 331.9309 0144270 60.7517 300.6847 2.00571884 70728
 GOES 4
 1 11964U 80 74 A 89353.28352498 .000000083 00000-0 00000 0 0 1159
 2 11964 6.1041 71.7101 0063290 95.3933 264.9569 0.99241803 3868
 GOES 5
 1 12472U 81049 A 89354.15254323 -.000000246 00000-0 99999-4 0 7970
 2 12472 3.0129 78.1029 0004264 95.2727 264.4403 1.00264756 30454
 SME
 1 12887U 81100 A 89354.09829700 .00027093 00000-0 72448-3 0 4141
 2 12887 97.6666 27.2031 0001593 337.2466 22.8709 15.38040148453635
 Meteor 2-08
 1 13113U 82 25 A 89352.70708252 .000000377 00000-0 32808-3 0 6802
 2 13113 82.5388 272.0810 0014083 268.5858 91.3657 13.84109427390768
 Salyut 7
 1 13138U 82 33 A 89354.51059615 .00026415 00000-0 45613-3 0 9410
 2 13138 51.6058 119.6419 0000531 219.9264 140.1689 15.50804469437012
 Cosmos 1383
 1 13301U 82 66 A 89354.25015276 .000000175 00000-0 19426-3 0 5249
 2 13301 82.9308 71.9225 0026520 296.9177 62.9259 13.67784273373219
 LandSat 4
 1 13367U 82 72 A 89353.07946204 .00001689 00000-0 38476-3 0 1851
 2 13367 98.1909 53.9113 0002624 6.3493 353.8442 14.57132951395070
 Meteor 2-09
 1 13718U 82116 A 89353.30493501 .000000466 00000-0 23885-3 0 8412
 2 13718 81.2462 100.4411 0055241 191.3675 168.6244 14.13406203361707
 IRAS
 1 13777U 83 4 A 89352.51876200 -.000000024 00000-0 -42972-5 0 7014
 2 13777 99.0293 187.0170 0013276 162.5316 197.6295 13.98702429 21687
 Cosmos 1447
 1 13916U 83 21 A 89354.49447477 .000000191 00000-0 19121-3 0 6646

2 13916 82.9459 144.1573 0036959 278.4189 81.2773 13.73989828338139
 TDRS 1
 1 13969U 83 26 B 89354.16110146 -.00000201 00000-0 00000 0 0 8932
 2 13969 4.0383 67.2220 0005267 207.1048 152.6141 1.00257848 91284
 GOES 6
 1 14050U 83 41 A 89354.35254569 .00000121 00000-0 00000 0 0 493
 2 14050 1.8003 80.4304 0000574 235.1999 124.2011 1.00267663 8478
 OSCAR 10
 1 14129U 83 58 B 89344.40088763 .00000069 00000-0 00000 0 0 4444
 2 14129 25.9017 229.8032 6018187 100.2539 328.6863 2.05879902 20842
 GPS-0008
 1 14189U 83 72 A 89353.85034069 .00000008 00000-0 99999-4 0 6901
 2 14189 63.2767 93.5139 0141152 216.0019 143.0399 2.00562238 47164
 Meteor 2-10
 1 14452U 83109 A 89354.04311973 .00000486 00000-0 20338-3 0 7966
 2 14452 81.1640 107.2615 0093631 281.4156 77.6504 14.22485610318968
 LandSat 5
 1 14780U 84 21 A 89353.10715519 .00000471 00000-0 11417-3 0 9991
 2 14780 98.1448 51.5626 0003876 51.6350 308.5339 14.57148286308496
 UOSAT 2
 1 14781U 84 21 B 89353.66706972 .00002546 00000-0 48723-3 0 5740
 2 14781 97.9809 46.9313 0014131 94.3141 265.9644 14.64611370309688
 LDEF
 1 14898U 84 34 B 89354.43074373 .00095289 00000-0 65948-3 0 808
 2 14898 28.5022 287.9939 0002534 267.4890 92.5661 15.72994167320553
 GPS-0009
 1 15039U 84 59 A 89351.91651852 .00000008 00000-0 00000 0 0 7745
 2 15039 63.0211 92.8049 0016633 242.7931 117.0313 2.00562817 40407
 Cosmos 1574
 1 15055U 84 62 A 89353.97857468 .00000183 00000-0 18531-3 0 8079
 2 15055 82.9581 194.3890 0028817 100.2385 260.2022 13.73308157275477
 Meteor 2-11
 1 15099U 84 72 A 89354.07360881 .00000199 00000-0 16913-3 0 9876
 2 15099 82.5293 218.5194 0014702 75.9894 284.2902 13.83768238275821
 GPS-0010
 1 15271U 89345.33291678 -.00000026 0 7326
 2 15271 63.3027 331.8568 0104455 322.5534 36.7234 2.00570557 37383
 Cosmos 1602
 1 15331U 84105 A 89354.97262494 .00003778 00000-0 53297-3 0 1337
 2 15331 82.5359 165.9167 0022899 191.1614 168.9081 14.76826433281777
 NOAA 9
 1 15427U 84123 A 89354.40338997 .00000527 00000-0 30709-3 0 4631
 2 15427 99.1587 345.1905 0015686 147.8281 212.3855 14.12350855258740
 Meteor 2-12
 1 15516U 85 13 A 89353.94533810 .00000203 00000-0 17230-3 0 1360
 2 15516 82.5354 157.0046 0016328 318.7372 41.2552 13.84235282246752
 Cosmos 1686
 1 16095U 85 86 A 89355.15483202 .00005598 00000-0 10300-3 0 4431

2 16095 51.5989 116.4494 0001707 290.6048 68.6153 15.50821207238219
 GPS-0011
 1 16129U 85 93 A 89352.97100094 .000000009 00000-0 00000 0 0 3791
 2 16129 63.8016 93.5888 0121283 150.1558 210.5491 2.00560898 30742
 Meteor 3-1
 1 16191U 85100 A 89353.81946387 .000000043 00000-0 99999-4 0 8788
 2 16191 82.5472 104.5094 0019556 192.4113 167.6535 13.16886064199957
 Meteor 2-13
 1 16408U 85119 A 89353.66281258 .000000256 00000-0 21895-3 0 5547
 2 16408 82.5363 72.0936 0017047 136.3044 223.9469 13.84266730201216
 Mir
 1 16609U 86 17 A 89354.48764045 .00027816 00000-0 37136-3 0 2913
 2 16609 51.6205 149.1105 0002425 170.0834 190.0433 15.57853732220213
 SPOT 1
 1 16613U 86 19 A 89354.87804370 .000000451 00000-0 22965-3 0 7082
 2 16613 98.7216 66.9311 0001011 46.8686 313.2569 14.20023266 38623
 Meteor 2-14
 1 16735U 86 39 A 89353.81384150 .000000313 00000-0 27185-3 0 3410
 2 16735 82.5370 98.8933 0013542 207.7429 152.3015 13.84013014180130
 Cosmos 1766
 1 16881U 89354.23802483 .000002809 00000-0 39843-3 0 8249
 2 16881 82.5238 225.8588 0020782 211.7929 148.2026 14.76567673182738
 EGP
 1 16908U 86 61 A 89347.39098238 -.000000024 00000-0 13433-3 0 1590
 2 16908 50.0073 107.1735 0011545 83.9975 276.2174 12.44383485151729
 FO-12
 1 16909U 86 61 B 89332.51013140 -.000000025 00000-0 99999-4 0 1759
 2 16909 50.0174 153.2103 0010997 44.1423 316.0292 12.44403023149867
 NOAA 10
 1 16969U 86 73 A 89353.40645465 .000000892 00000-0 40960-3 0 3183
 2 16969 98.6208 20.2379 0014656 72.1749 288.1026 14.23364909169038
 Meteor 2-15
 1 17290U 87 1 A 89354.05741631 .000000180 00000-0 15234-3 0 3161
 2 17290 82.4652 4.6848 0014632 99.5823 260.6989 13.83827206149329
 MOS-1
 1 17527U 87 18 A 89354.89260078 -.000000132 00000-0 -85166-4 0 3515
 2 17527 99.1302 64.5771 0000695 141.2726 218.8551 13.94864600144405
 GOES 7
 1 17561U 87 22 A 89353.05513873 -.000000044 00000-0 99999-4 0 3867
 2 17561 0.0099 0.9420 0003987 2.3811 356.6810 1.00267466 3618
 Kvant-1
 1 17845U 87 30 A 89355.12908444 .00033864 00000-0 44962-3 0 9436
 2 17845 51.6235 145.9001 0002423 177.1641 182.8010 15.57895842156586
 DMSP B5D2-3
 1 18123U 87 53 A 89353.02854862 .000000902 00000-0 49616-3 0 4424
 2 18123 98.8160 181.0379 0014057 172.4252 187.7128 14.13767890128942
 RS-10/11
 1 18129U 87 54 A 89354.86917467 .000000222 00000-0 23210-3 0 9810

2 18129 82.9263 100.2768 0010521 252.0464 107.9572 13.72043217124995
 Meteor 2-16
 1 18312U 87 68 A 89353.69631492 .00000218 00000-0 18868-3 0 3519
 2 18312 82.5625 72.5653 0013198 43.5784 316.6426 13.83572012118163
 Meteor 2-17
 1 18820U 88 5 A 89354.16149467 .00000204 00000-0 17349-3 0 1802
 2 18820 82.5436 132.7705 0017789 105.0105 255.3026 13.84256942 95414
 DMSP B5D2-4
 1 18822U 88 6 A 89353.97178157 .00000059 00000-0 35749-4 0 3514
 2 18822 98.6689 231.4724 0007566 69.6417 290.5729 14.21154715 97369
 AO-13
 1 19216U 88 51 B 89343.49223563 .00000031 00000-0 99999-4 0 581
 2 19216 57.1254 178.6003 6844990 216.7118 67.1461 2.09697953 11429
 OKEAN 1
 1 19274U 88 56 A 89354.90341084 .00003092 00000-0 44468-3 0 5975
 2 19274 82.5179 323.8678 0022088 349.9162 10.1662 14.75966098 78611
 Meteor 3-2
 1 19336U 88 64 A 89354.11227527 .00000391 00000-0 99999-3 0 3315
 2 19336 82.5353 44.1162 0019562 39.5048 320.7361 13.16874642 67388
 NOAA 11
 1 19531U 88 89 A 89349.35923975 .00000671 00000-0 39141-3 0 1782
 2 19531 98.9616 292.7216 0012858 82.8553 277.4051 14.11345239 63035
 TDRS 2
 1 19548U 88 91 B 89347.24757333 .00000130 00000-0 99999-4 0 611
 2 19548 0.0519 112.6745 0002642 157.6982 89.5772 1.00271530 3585
 Cosmos 2001
 1 19796U 89 11 A 89354.75001295 -.00001157 00000-0 99999-4 0 2941
 2 19796 62.9298 116.0150 7175962 319.6202 4.9459 2.00532646 6223
 GPS-0014
 1 19802U 89347.49529899 0.00000016 10000-3 0 627
 2 19802 55.0773 204.7364 0062052 156.7951 203.5736 2.00560907 6027
 Meteor 2-18
 1 19851U 89 18 A 89354.15884131 .00000116 00000-0 99999-4 0 1270
 2 19851 82.5226 11.0997 0015755 141.6148 218.6127 13.83904238 40806
 TDRS 3
 1 19883U 89 21 B 89342.89882990 -.00000234 00000-0 99999-4 0 404
 2 19883 0.1065 92.2375 0009572 176.4382 91.5552 1.00268103 1981
 GPS-0013
 1 20061U 89345.18657634 -.00000031 0 420
 2 20061 54.6797 23.4748 0080314 170.0741 190.1426 2.00566560 3728
 Nadezhda
 1 20103U 89 50 A 89354.12181634 .00000214 00000-0 21658-3 0 592
 2 20103 82.9604 56.9979 0037229 174.8623 185.2918 13.73544699 23130
 GPS-0015
 1 20185U 89 64 A 89348.64693948 .00000016 00000-0 99999-4 0 339
 2 20185 54.9359 205.5714 0026089 136.6531 223.6255 2.00569485 6995
 Soyuz TM-8
 1 20218U 89 71 A 89355.12907944 -.00029232 00000-0 -38420-3 0 1031

2	20218	51.6224	145.8995	0001694	216.5898	143.3309	15.57852117	16579
GPS-0016								
1	20302U		89345.38879080	-.000000030		10000-3	0	379
2	20302	54.7538	324.7136	0038151	306.2697	53.3775	2.00574446	987
Meteor 3-3								
1	20305U	89 86	A	89352.47984128	.000000087	00000-0	21151-3	0 361
2	20305	82.5507	345.4535	0017442	60.6289	299.6599	13.15844933	7183
IntelSat 6A								
1	20315U		89331.91798177	-.000000222		10000-3	0	175
2	20315	0.1028	41.6104	0014547	219.5625	98.6861	1.00266854	270
1989 087B								
1	20316U		89341.03139726	0.000005964		41604-2	0	360
2	20316	7.0233	179.2574	7261981	212.2333	68.9029	2.27913743	927
1989 070C								
1	20317U	89 70	C	89335.48769175	-.000000018	00000-0	99999-4	0 172
2	20317	1.5631	288.4330	0233580	229.5139	128.4043	0.98761918	349
Cosmos 2049								
1	20320U	89 88	A	89354.51242723	.00375508	74888-4	39704-3	0 786
2	20320	64.7743	132.4429	0037030	98.5672	262.0006	16.08443646	5312
COBE								
1	20322U	89 89	A	89353.51131206	.000004911	00000-0	33193-2	0 290
2	20322	99.0247	0.7502	0006609	138.1448	222.0213	14.00675425	4321
1989 089B								
1	20323U	89 89	B	89353.35971497	.000001250	00000-0	39099-3	0 191
2	20323	97.0674	356.4643	0080728	196.2669	163.5922	14.40155175	4421
Cosmos 2050								
1	20330U	89 91	A	89354.78144950	-.000000890	00000-0	38270-2	0 331
2	20330	63.0231	316.9763	7369797	316.5218	4.6908	2.00572126	556
1989 091B								
1	20331U	89 91	B	89351.92213889	.20989483	43434-4	27464-3	0 479
2	20331	62.8215	229.2985	0029633	121.3548	239.4456	16.46351236	3822
1989 091C								
1	20332U		89344.07629308	0.40913519	44119-4	26618-3	0	399
2	20332	62.9123	259.2420	0033088	110.6690	250.1917	16.50931621	2588
1989 091D								
1	20333U	89 91	D	89353.86668053	-.000000236	00000-0	10161-2	0 194
2	20333	63.0001	317.0873	7338316	316.4917	4.8230	2.04183202	542
Cosmos 2051								
1	20334U	89 92	A	89354.90938019	.00038065	00000-0	62873-3	0 811
2	20334	64.9076	0.8491	0009806	259.8736	100.0597	15.51999904	4032
Kvant-2								
1	20335U	89 93	A	89355.06496032	.00033690	00000-0	44738-3	0 500
2	20335	51.6210	146.2189	0002373	177.1986	182.8996	15.57894084	3844
Molniya3-36								
1	20338U	89 94	A	89353.52455728	.000000218	00000-0	36631-2	0 300
2	20338	62.8237	164.6633	7352940	288.0515	9.5496	2.00602034	431
1989 094B								
1	20339U	89 94	B	89347.72626959	.000000069	00000-0	46898-2	0 166

2	20339	62.8645	165.5088	7389613	288.0338	9.3873	1.96644065	306
1989 094C								
1	20340U	89 94	C	89355.14214101	.05863537	41483-4	98842-3 0	618
2	20340	62.7938	80.7771	0064339	116.2917	244.6352	16.26403731	3606
1989 094D								
1	20341U	89 94	D	89354.37298078	.24943347	43035-4	33838-3 0	649
2	20341	62.8052	84.0820	0040049	110.8101	250.3635	16.44530401	3483
1978 100AV								
1	20347U	78100	AV	89354.00598029	.00025467	00000-0	78128-2 0	201
2	20347	82.5995	341.7049	1213753	20.4937	344.0929	12.53322116	8590
Cosmos 2052								
1	20350U	89 95	A	89354.55157781	.00839357	28486-4	28992-3 0	552
2	20350	67.1442	213.6554	0107027	55.1665	305.8618	16.12108600	3219
Granat								
1	20352U			89346.00000000	-.00000838		10000-3 0	42
2	20352	51.7220	23.3800	9238040	285.6830	168.2810	0.24433004	45
1989 096B								
1	20353U	89 96	B	89354.90485789	.00156427	62257-5	10874-2 0	595
2	20353	51.5426	315.7497	1158751	173.0683	188.7950	13.44682425	2560
1989 096C								
1	20354U	89 96	C	89338.99999998	-.00000805	00000-0	99999-4 0	15
2	20354	51.6030	24.1780	9217879	285.2190	280.0690	0.25077369	07
1989 096D								
1	20358U	89 96	D	89354.83296559	.00144192	58689-5	99500-3 0	300
2	20358	51.5367	316.0839	1160989	172.8348	189.0899	13.44293124	2553
GPS-0017								
1	20361U	89 97	A	89352.64708184	.00000016	00000-0	99999-4 0	54
2	20361	54.9446	147.4762	0064315	62.3843	298.2581	1.98342551	106
1989 097B								
1	20362U			89346.14301218	-.00005555		-69763-3 0	23
2	20362	35.6339	140.2604	0333389	98.0019	265.8563	14.49138641	58
1989 097C								
1	20363U	89 97	C	89354.70948474	.00203434	86590-5	14364-2 0	113
2	20363	37.6356	137.2034	6050731	205.9890	104.0513	4.07884655	372
1988 065G								
1	20365U	88 65	G	89355.16873724	.00644408	00000-0	55770-2 0	163
2	20365	65.8563	262.4522	0007036	354.3716	5.7366	15.66942667	78474
1988 065H								
1	20366U	88 65	H	89354.21119710	.00612218	00000-0	55715-2 0	137
2	20366	65.8025	265.6359	0009862	5.0511	354.9856	15.65762330	78326
1989 098A								
1	20367U	89 98	A	89354.36777212	.00000050	00000-0	99999-4 0	104
2	20367	1.5294	264.7291	0024379	68.5639	299.5985	0.99045972	62
1989 098D								
1	20370U	89 98	D	89354.35540383	-.00000023	00000-0	99999-4 0	59
2	20370	1.5335	264.3051	0015840	28.9376	331.9006	0.97856251	55
1989 099A								
1	20373U	89 99	A	89355.01682021	.00031056	52036-5	13168-3 0	45

2 20373 51.6163 146.6403 0089726 112.0909 248.8458 15.79854970 146

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